

AMENDMENTS

In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A load port transfer device, for delivering a wafer carrier along an overhead conveying system, including:
 - a load port;
 - a transport rail, having vertical and horizontal portions, the vertical portion having a top portion connected to the horizontal portion, wherein the horizontal portion is higher than beside the overhead conveying system and a bottom portion extending from the load port; and
 - a robot, disposed to move along both the vertical and horizontal portions of the rail to transfer the wafer carrier between the load port and the overhead conveying system.
2. (Previously presented) The load port transfer device as claimed in claim 1, wherein the rail is L-shaped.
3. (Original) The load port transfer device as claimed in claim 1, wherein the horizontal component is located above the overhead conveying system.
4. (Previously presented) The load port transfer device as claimed in claim 1, wherein the robot further includes a moving mechanism, disposed along the rail and a holding mechanism, disposed on the moving mechanism to maintain the wafer carrier in a horizontal position.
5. (Original) The load port transfer device as claimed in claim 4, wherein the holding mechanism having first and second ends, wherein the first end is removably connected to the wafer carrier and the second end is movably connected to the moving mechanism.

6. (Original) The load port transfer device as claimed in claim 5, wherein the first end is gripper-shaped to grasp the wafer carrier.

7. (cancel)
8. (cancel)
9. (cancel)

10. (Original) The load port transfer device as claimed in claim 4, wherein the moving mechanism is a timing belt.

11. (cancel)
12. (cancel)

13. (Currently Amended) A load port transfer device, for delivering a wafer carrier to a conveying system, comprising:

a load port;

a rail, having vertical and horizontal portions, the vertical portion having a top portion beside the conveying system and a bottom portion, extending from the load port,

wherein the horizontal portion is higher than the overhead conveying system;

a robot, including a moving mechanism configured for movement along both the vertical and horizontal portions of the rail to transfer the wafer carrier between the load port and the conveying system, and a holding mechanism having a first end holding the wafer carrier and a second end disposed on the moving mechanism.

14. (Original) The load port transfer device as claimed in claim 13, wherein the horizontal and the vertical portions form an L-shape.

15. (Original) The load port transfer device as claimed in claim 13, wherein the first end is gripper-shaped to grasp the wafer carrier.

16. (cancel)
17. (cancel)
18. (cancel)

19. (Original) The load port transfer device as claimed in claim 13, wherein the moving mechanism is a timing belt.

20. (cancel)
21. (cancel)
22. (Previously presented) An intra-bay delivery system comprising:
a wafer carrier;
a load port supporting the wafer carrier;
a conveyor, disposed above the load port;
a rail having vertical and horizontal portions, wherein the vertical portion extends from the load port and the horizontal portion is located above the conveyor; and
a robot including a roller movably disposed on both the vertical and horizontal portions of the rail to transfer the wafer carrier between the load port and the conveyor and a holding portion having a first end holding the wafer carrier and a second end disposed on the roller, wherein the first end holding the wafer carrier is a flange.
23. (Currently Amended) An intra-bay delivery system comprising:
a load port;
an overhead conveying system, located above the load port;
a path, having vertical and horizontal portions, the vertical portion having a top portion connected to the horizontal portion, wherein the horizontal portion is higher than ~~beside~~ the overhead conveying system and a bottom portion extending from the load port; and
a robot, configured for movement along both the vertical and horizontal portions of the rail to transfer the wafer carrier between the load port and the overhead conveying system.